NATIONAL WEATHER SERVICE EASTERN REGION SUPPLEMENT 07-2004
APPLICABLE TO NWSI 10-912 and 10-922
APRIL 7, 2004

Operations and Services
Hydrologic Services Program, NWSPD 10-9
River Forecast Center Hydrologic Products Specification, NWSI 10-912
Weather Forecast Office Hydrologic Products Specification, NWSI 10-922

LONG-RANGE HYDROLOGIC PRODUCTS

NOTICE: This publication is available at:
http://www.werh.noaa.gov/supplements/supp_main.htm

OPR: W/ER2x4 (L. Hogan) **Certified by:** W/ER2 (P. Gabrielsen)
Type of Issuance: Initial

SUMMARY OF REVISIONS: This supplement supercedes Regional Operations Manual Letter (ROML) E-02-00, "Long Range Hydrologic Products", filed with WSOM Chapters E-42, dated September 18, 2000.

<signed>

_____

Dean P. Gulezian March 24, 2004
Director, Eastern Region

Table of Contents: Page

1. Purpose. The purpose of this Supplement is to provide instructions on long range hydrologic products. The Supplement outlines procedures to use to augment the short and intermediate-range public hydrologic products (e.g., watches, warnings, statements, etc.) with longer-term outlooks and statements. The roles of the river forecast center (RFC) and weather forecast office (WFO) in providing customers and partners with Winter/Spring Flood Guidance, Outlooks and Drought/Water Resource Statements are reviewed, and general procedures for issuing these products are established.

2. Introduction. The wide variety and complexity of water resource problems in the Eastern Region places an increased emphasis on our long-range and extended forecasting program. Partners and customers of the National Weather Service (NWS) rely on the NWS for information on spring runoff, and flood and drought potential in their areas. It is incumbent upon the NWS to closely monitor the status of water resources, sense the public interest, and provide timely data and forecasts to meet customer needs.

A significant responsibility of the WFO is the assessment of hydrometeorological conditions over its service area. This should be accomplished in conjunction with extended hydrometeorological guidance provided by the RFC(s). The WFO should work closely with their servicing RFC(s) to provide accurate and timely long-range hydrologic products.

NWS Instructions River Forecast Center Hydrologic Products Specification (NWSI 10-912) and Weather Forecast Office Hydrologic Products Specification (NWSI 10-922) show appropriate headers and descriptions for long-range hydrologic products. Eastern Region Supplement 14-2002 provides guidance on specific product headlines. Appendix A provides information on coding and World Meteorological Organization (WMO) headers.

3. Drought/water Resource Statements. Eastern Region WFOs should issue standardized Drought/Water Resource Statements in accordance with the World Meteorological Organization drought definitions. In addition, offices should assess the need for statements based on the drought characterization for their service area, depicted in the weekly Drought Monitor. The Monitor, found on the Climate Prediction Center (CPC) web site, provides a weekly assessment of drought conditions across the nation. Refer to NWS Instruction Climate Monitoring (NWSI 10-1002) for more information on the drought monitoring operations of CPC.

3.1 Drought Definitions. The WMO has defined six types of drought as follows:

a. **Meteorological drought** - defined only in terms of precipitation deficiencies in absolute amounts;

b. **Climatological drought** - defined in terms of precipitation deficiencies as a ratio to mean or normal values;

c. **Atmospheric drought** - defined not only in terms of precipitation, but includes temperature, humidity, and/or wind speed;

d. **Agricultural drought** - involves soil moisture and effects on crops (can be seasonal);

e. **Hydrologic drought** - defined in terms of reduction of streamflow, reduction in lake levels, or lowering of groundwater tables; and,

f. **Water management drought** - conditions that may exist because of deficiencies in water management practices or facilities.

3.2 WFO Guidelines in Issuing Drought/Water Resource Statements. WFOs will issue drought/water resource statements under the product category **ESF**.

Drought/Water resource statements will be issued, at a minimum, on the second and fourth Wednesday of each month by each affected WFO, whenever drought conditions are in effect.

They may be issued more frequently to satisfy cooperator needs. WFOs may request an **ESP** from the servicing RFC to support irregular **ESF** issuances.

WFOs should issue Drought/Water Resources statements under the following conditions:

a. Where precipitation deficiencies over the last 6 to 12 months are 15% or more below normal; and, or;

b. Where there is local or regional concern or interest; and, or;

c. Where the Drought Monitor shows D1 - Drought First Stage, or greater within the WFO service area.

3.3 **ESF Content.** Statements may contain information on:

a. Weekly Palmer Drought and Crop Moisture Indices and other similar charts.

b. Stream flow conditions.

c. Reservoir levels.

d. Other value added information for the WFO service area such as local drought declarations, drought impacts, water use restrictions, etc.

3.4 **RFC Guidelines in Issuing Drought/Water Resource Guidance.** RFCs will issue Drought/Water Resource guidance under the product category **ESP**. Drought/Water Resource guidance should be issued on a schedule supporting WFO **ESF** issuance.

3.5 **ESP Content.** RFCs will provide basic precipitation statistics, such as total, normals, departures from normals, etc. Normal and departure from normal precipitation and other information should start from the beginning of the precipitation deficits or water year (October 1) as appropriate.

4. **Coordinated Winter/Spring Flood Outlook.** Winter/Spring Flood Outlooks/RFC Guidance will be issued by Eastern Region WFOs/RFCs in accordance with the National Hydrologic Outlook (NHO) scheduled press release dates and early issuance dates posted by Eastern Region Headquarters. Eastern Region preliminary flood potential outlooks begin in mid-January as a result of the history of early snowmelt flooding accompanied by rainfall during January thaw periods. These are followed by the NHO scheduled-releases beginning in mid-February. ER preliminary flood potential outlooks are normally issued by the WFOs on alternate Fridays through the winter/spring snowmelt season. RFCs should provide appropriate guidance

on the preceding Thursdays in accordance with the seasonal schedule. Offices will be notified about release dates through memoranda/email from ERH HSD, well in advance of the outlook period.

4.1 Guidelines in Issuing Winter/Spring Flood Outlooks. Eastern Region WFOs/RFCs will issue winter/spring flood outlooks on the dates directed by ERH and the NHO. Product headers for outlooks conform to NWS Instructions 10-922 (WFOs) and 10-912 (RFCs). RFCs will issue products to WFOs under product header **ESG.** WFOs will issue products to the public under **ESF**.

4.2 Outlook Content. Outlook statements will include:

a. Information on the potential for snowmelt flooding.
b. Observed snow depths and water equivalents.
c. Soil moisture conditions.
d. Ice conditions.
e. Antecedent fall and winter precipitation conditions.

Outlooks should address water supply conditions (in addition to flood potential), and focus on those areas experiencing or anticipating shortages. Outlooks issued by WFOs/RFCs will be used by the Office of Climate, Water and Weather Services/Hydrologic Services Divisions in NHO press releases.

The March outlook(s) issued by Ohio River Forecast Center will include numeric values for Central Region locations in the Ohio River basin.

Eastern Region WFOs will tailor outlooks for their respective service areas. Value-added information for the WFO service area should be included in the local issuance.
NWS Instruction 10-931 discusses activities and operations of the National Operational Hydrologic Remote Sensing Center (NOHRSC), Chanhassen, MN, and also includes information on the Airborne Gamma Radiation Snow Survey and Satellite Hydrology programs.

Appendix A
Dissemination and Coding

1. Dissemination. The ESG and ESP will be distributed to WFOs via AWIPS. The ESF will be distributed to the public via AWIPS to the Family of Services and NOAA Weather Wire Service. The ESG, ESP, and ESF may also be posted on Internet homepages. The valid time periods for the ESF products should be specified as the period until the next routine issuance. This will generally be two weeks for the winter/spring flood outlooks.

The ESG, ESP, and ESF products distributed within the NWS and to the public over NWS-supported dissemination pathways will include WMO headers, Universal Generic Code(UGC), and mass news disseminator (MND) headings as shown below. The more details are provided in Table 1.

FGUSii CCCC YYGGgg BBB
PILxxx (see table below)
UGC
MND

Table 1. PILs, WMO Ids, and MNDs for RFC and WFO Products

Office	PIL	WMO	MND
RFC	ESG	FGUS61	Winter/Spring Flood Guidance
RFC	ESP	FGUS61	Drought/Water Resource Guidance
WFO	ESF	FGUS71 FGUS72*	Hydrologic Outlook

* North and South Carolina Offices

WMO Header - A listing of CCCC's and xxx's for ER WFOs and RFCs is provided in Table 2.

UGC - The zone variation (UGC-Z) of UGC will be used until such time as the county UGC (UGC-C) becomes the only official UGC form used by the NWS to identify zones.

Table 2. WMO HEADER CCCC's AND xxx's

WFO	CCCC	xxx
Wakefield,VA	KAKQ	AKQ
Albany, NY	KALY	ALY
Binghamton, NY	KBGM	BGM
Boston, MA	KBOX	BOX
Burlington, VT	KBTV	BTV
Buffalo, NY	KBUF	BUF
Columbia, SC	KCAE	CAE
Caribou, ME	KCAR	CAR
Charleston, SC	KCHS	CHS
Cleveland, OH	KCLE	CLE
Central Pennsylvania, PA	KCTP	CTP
Greenville/Spartanburg, SC	KGSP	GSP
Portland, ME	KGYX	GYX
Wilmington, NC	KILM	ILM
Wilmington, OH	KILN	ILN
Baltimore, MD /Washington	KLWX	LWX
Newport, NC	KMHX	MHX
New York City	KOKX	OKX
Pittsburgh, PA	KPBZ	PBZ
Philadelphia, PA	KPHI	PHI
Raleigh, NC	KRAH	RAH
Charleston, WV	KRLX	RLX
Roanoke, VA	KRNK	RNK
MARFC	KRHA	RHA*
NERFC	KTAR	HFD*
OHRFC	KTIR	CIN*

* or locally determined state/basin ids.